Quantum Gravity and String Theory

The Final Theory

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We construct a complete quantum field theory in which all observed interactions - electromagnetic, weak, strong, gravitational, and cosmological - arise from a single mechanistic principle: energy conservation in vacuum polarization. The theory replaces the ad hoc structure of the Standard Model and the geometric assumptions of general relativity with a unified framework based on the group chain for Euclidean signature $SO(3, 3) \sim SU(4) \supset SU(3) \times U(1)_G \supset U(2) \supset SU(2) \times U(1)_Y$. Matter representations, gauge charges, running couplings, particle masses, gravity, and dark energy all emerge from this structure without arbitrary parameters. This paper is a new presentation of the ideas in vixra paper 1111.0111 dated 2011, with updates, a few corrections, and further development. That earlier paper should still be consulted for further references, graphics and details documenting the origins of the various nascent ideas.

Comments: Corrected contents page links to sections and also a bibliography added.

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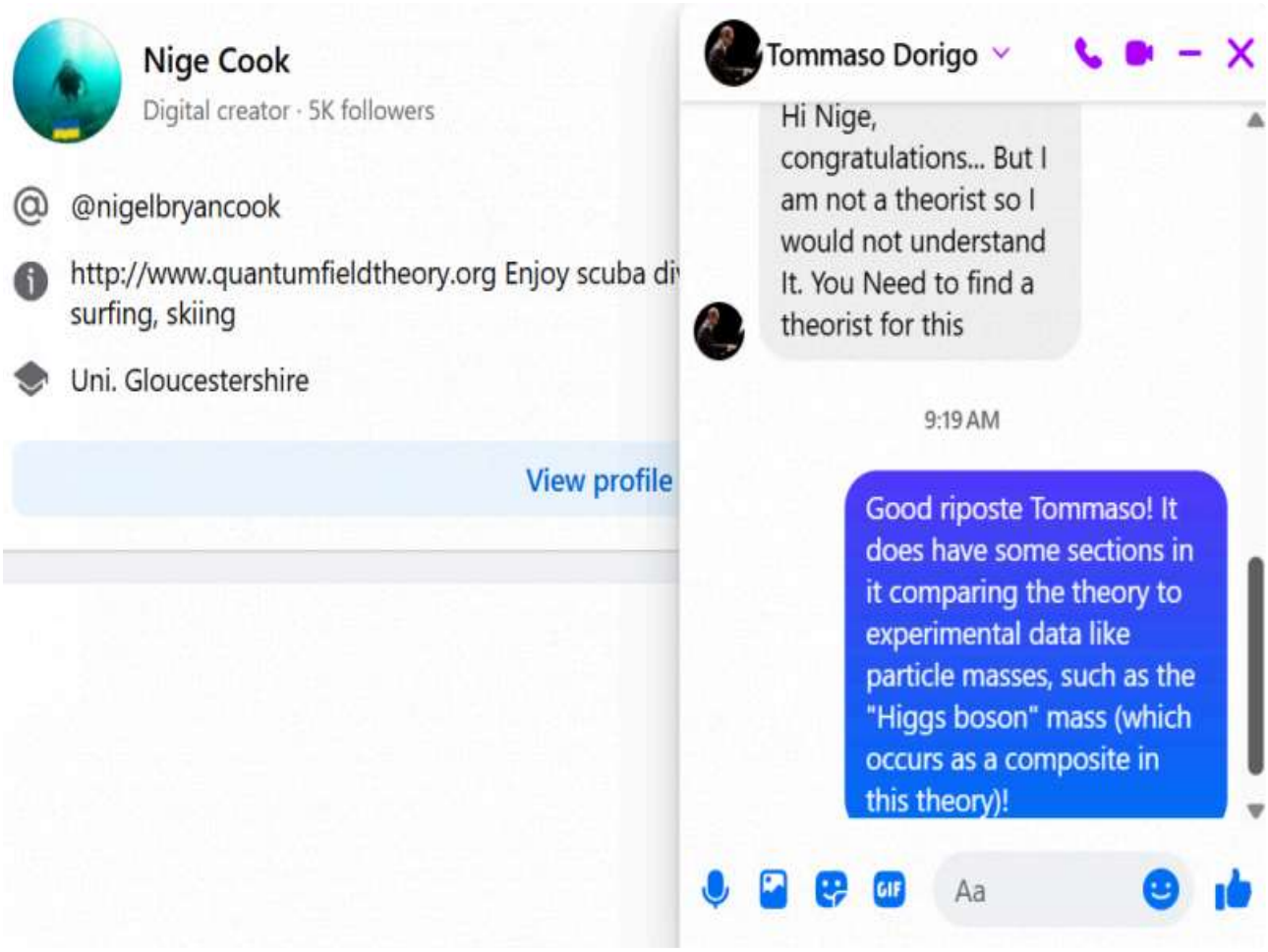
Nige Cook
a minute ago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Tommaso Dorigo
Hi Nige, congratulations... But I am not a theorist so I would not understand It. You Need to find a theorist for this
9:19 AM
Good riposte Tommaso! It does have some sections in it comparing the theory to experimental data like particle masses, such as the "Higgs boson" mass (which occurs as a composite in this theory)!
Aa

Experimentalist Dr Tommaso Dorigo's response to this paper on Facebook chat (20 June 2026):

0 0 Reply

Nige Cook
4 days ago

Background info on how the few people who are not card-carrying "mainstream" peer-review controlling ArXiv folk, aren't interested in reality (e.g. corrupt editors of Physical Review Letters and other Parkinson's Law-controlled $$$$-making fashion mags):
https://nigecook.substack.com/p/final-theory-paper-arrives-100-pages

0 0 Reply

Nige Cook
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For an alternative derivations comparison, please see https://ai.vixra.org/pdf/2606.0018v1.pdf

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Nige Cook

6 days ago

COMPARISON OF OBSERVED WITH PREDICTED MASSES OF ELEMENTARY PARTICLES*

N (number of black hole, gravitationally trapped Z-bosons associated with each core)	n (number of fundamental particles per observable particle core)		
	1	2 (i.e., 2 quarks)	3 (i.e., 3 quarks)
	Leptons	Mesons	Baryons
1	*Electron (stable, 0.511 Mev measured):* $M_z\alpha^2/(1.5*2\pi) = 0.51$ MeV	*Pions (139.57, 134.96 Mev measured):* $M_en(N + 1)/(2\alpha) = 35n(N+1) = 140$ MeV	'… I do feel strongly that this [string theory] is nonsense! … I think all this superstring stuff is crazy and is in the wrong direction. … I don't like it that they're not calculating anything. … why are the masses of the various particles such as quarks what they are? All these numbers … have no explanations in these string theories - absolutely none! …' – Richard P. Feynman in Davies & Brown, *Superstrings* 1988, at pages 194-195
2* *Magic number of nuclear physics => High stability	*Muon (Most stable particle after neutron, 105.66 Mev measured):* $M_en(N + 1)/(2\alpha) = 35n(N+1) = 105$ Mev		
6		*Kaons (493.67, 497.67 Mev measured):* $M_en(N + 1)/(2\alpha) = 35n(N+1) = 490$ Mev	
7		*Eta (548.8 Mev measured):* $M_en(N + 1)/(2\alpha) = 35n(N+1) = 560$ Mev	
8* *Magic number of nuclear physics => High stability			*Nucleons (VERY STABLE, 938.28, 939.57 Mev measured):* $M_en(N + 1)/(2\alpha) = 35n(N+1) \sim 945$ Mev
10			*Lambda & Sigmas (1115.6, 1189.36, 1192.46, 1197.34 Mev measured):* $M_en(N + 1)/(2\alpha) = 35n(N+1) = 1155$ Mev
12			*Xi (1314.9, 1321.3 Mev measured):* $M_en(N + 1)/(2\alpha) = 35n(N+1) = 1365$ Mev
15			*Omega (1672.5 Mev measured):* $M_en(N + 1)/(2\alpha) = 35n(N+1) = 1680$ Mev
50* *Magic number of nuclear physics => High stability	*Tauon (1784.2 MeV measured):* $M_en(N + 1)/(2\alpha) = 35n(N+1) = 1785$ Mev		

*Only particles with lifetimes above 10^{-23} s are included above. The blank spaces predict other particles. The integer formula is very close, as statistical tests show. (Notice that the periodic table of chemistry did not explain discrepancies from integer masses until mass defect due to binding energy, isotopic composition, and other factors were discovered long after the periodic table was widely accepted. Doubtless there is analogous 'noise' in the measurements due to field interactions.)

Some readers may be interested in this table from the original 2011 paper comparison of predicted to observed masses, from p49 of https://vixra.org/abs/1111.0111 and also on p3 of https://vixra.org/pdf/1408.0151v1.pdf

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